

REMARKS

Entry of this Amendment and reconsideration are respectfully requested in view of the amendments made to the claims and for the remarks made herein.

Claims 1-4 and 6-12 are pending. Claims 1-4, 6, 7 and 9-12 stand rejected. Claim 8 is objected to but would be allowable if rewritten in allowable form.

Claims 2-4 and 6 have been amended. Claims 2-4 and 6 are objected to for containing informalities. Applicant thanks the examiner for his observation and has amended the claims as suggested. Having amended the claims as suggested, applicant submits that the reason for the objection has been overcome and respectfully requests that the objection be withdrawn.

Claims 1-4 and 6 stand rejected under 35 USC 103(a) as being unpatentable over Tomlinson (USP no. 4,821,120) in view of Davie (USP no. 6,278,870).

Applicant respectfully disagrees with, and explicitly traverses, the reason for rejecting the claims.

Tomlinson discloses a receiving system for reception of satellite television signals and sub-carrier signals carrying data. The system, as shown in Figure 3, which is referred to in the Office Action in rejecting the claims, illustrates a double down-conversion system wherein the signal is downconverted in a first stage (elements 34, 36) to a 600 Mhz center frequency, and filtered (element 38). The first stage downconverted signal is further downconverted in a second stage (elements 42, 44) to 70 Mhz and again filtered (element 50). (see col. 5, lines 8-24). The double down converted signal is then soft-limited (element 54) and filtered using low-pass filter 56. (see col. 5, lines 59-60).

Davie discloses a phasing receiver including a quadrature mixing arrangement for frequency converting an input or high IF information signal to a pair of quadrature related low IF signals. The Davie receiver employs a polyphase filter which functions as a low-pass filter and adjacent channel rejection filter.

The Office Action, in rejecting the claims states that Tomlinson teaches all the elements claimed "except for specifically teaching the receiver is a polyphase receiver. However, Davie teaches a polyphase receiver. (see page 3, line 23-page 4, line 1, instant office action). However, Tomlinson fails to teach or suggest a harmonic filter. To

overcome this deficiency, the Office Action states that “[i]t is inherent that a low pass filter is a harmonic filter, since [a] low pass filter filters out all the frequency components higher than that of the cutoff frequency.” (see page 3, lines 20-23, instant Office Action).

Applicant, however, disagrees with the statement made in the Office Action with regard to the implication that a harmonic filter is the same as a low-pass. Rather as the written description of the instant application states “[t]he non- linearities in the limiting amplifiers generate harmonics of the wanted signal … As these harmonics are displaced symmetrically about zero frequency then if it is decided to remove them by filtering it is desirable to continue with the complex signal processing and to use a polyphase device as the harmonic filter” (see page 6, lines 9-15) (emphasis added).

Hence, as the written description makes clear, harmonics are generated on either side of a center frequency and the harmonic filter described removes harmonics on either side of the center frequency. As is further noted in the written description the discriminator is centered on IF of 864 kHz, and the harmonic filter is required to remove harmonics above and below the IF center frequency.

Similarly, the system described by Tomlinson, harmonic signals below the 600 MHz (first stage) or below the 70 MHz (second stage) are not removed as the low-pass filter described removes higher frequencies. Hence, the low-pass filter described by Tomlinson does not have the inherent capability to operate as a harmonic filter as described in the claims.

Applicant would further note that the instant invention illustrates the use of a low-pass filter (element 58) after the harmonic filter process is completed to remove frequency greater than the low pass filter cutoff frequency.

Accordingly, contrary to the statements made in the Office Action neither Tomlinson nor Davie, individually or in combination, teach or suggest all the elements recited in the above referred-to claims. Even if the teachings of Tomlinson and Davie, were combined, the combination would not include all the features recited in the independent claim 1, for example. As shown, the low-pass filter of Tomlinson is not inherently a harmonic filter and Davie fails to teach or suggest a harmonic filter.

Having shown that the combination of Tomlinson and, Davie fails to teach or suggest all the elements claimed, applicant submits that the reason for the rejection has been overcome and the rejection can no longer be sustained. Applicant respectfully requests withdrawal of the rejection and allowance of the claim.

With regard to independent claims 2 and 6, these claims recite subject matter similar to that recited in claim 1 and were rejected citing the same references used in rejecting claim 1. Thus, applicant's remarks made in response to the rejection of claim 1 are also applicable in response to the rejection of claims 2 and 6. Applicant submits that in view of the remarks made with regard to the rejection of claim 1, which are reasserted, as if in full, in response to the rejection of claims 2 and 6, the reason for the rejection of claim 2 and 6 has been overcome and the rejection can no longer be sustained. Applicant respectfully requests withdrawal of the rejection and allowance of the claims.

Claim 9 stands rejected under 35 USC 103(a) as being unpatentable over Tomlinson (USP no. 4,821,120) in view of Davie (USP no. 6,278,870) as applied to claims 1 and 2 and further in view of Bijker (USP no. 5,404,589). Claim 10 stands rejected under 35 USC 103(a) as being unpatentable over Tomlinson (USP no. 4,821,120) in view of Davie (USP no. 6,278,870) as applied to claims 1 and 2 and further in view of McDowell (USP no. 6,078,799).

With regard to independent claims 9 and 10, these claims recite subject matter similar to that recited in claim 1 and were rejected citing the same underlying references used in rejecting claim 1. Thus, applicant's remarks made in response to the rejection of claim 1 are also applicable in response to the rejection of claims 9 and 10 as the additional references – Bijker and McDowell -- fail to address or correct the deficiency shown to exist in the combination of Tomlinson and Davie.

Applicant submits that in view of the remarks made with regard to the rejection of claim 1, which are reasserted, as if in full, in response to the rejection of claims 9 and 10, the reason for the rejection of claim 9 and 10 has been overcome and the rejection can no longer be sustained. Applicant respectfully requests withdrawal of the rejection and allowance of the claims

The other claims in this application are each dependent from the independent claim discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of the patentability of each on its own merits is respectfully requested.

Applicant thanks the examiner for the indication of allowable subject matter in claim 8. However, for the amendments made to the claims and for the remarks made herein, applicant believes that all the claims are in an allowable form and elects not to amend claim 8 at the time. Applicant, however, reserves the right to amend claim 8 at a future time.

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. A Notice of Allowance is respectfully requested.

Respectfully submitted,

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